

DEPARTMENT OF BIOLOGICAL SCIENCES GRADUATE PROGRAM

POLICIES AND PROCEDURES

June 22, 2016

Graduate Program Director
Dr. Jeffrey Walters
4081 Derring Hall
Tel: 540-2313847
Email: jrwalt@vt.edu
FAX: 1-9307

Graduate Program Coordinator
Sue Rasmussen
2013D Derring Hall
Tel: 540-231-8929
E-mail: sueras@vt.edu
FAX: 1-9307

Section I

THE FIRST YEAR OF THE GRADUATE PROGRAM

SECTION II

POLICIES AND PROCEDURES

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SECTION I

FIRST YEAR OF GRADUATE PROGRAM

1. Graduate Student Orientation

New graduate students receive a welcome letter from the Department that indicates their advisor and lists important dates. These include the dates for the Graduate School and the Departmental orientations. All students are expected to attend the GTA workshop and orientation given by the Graduate School, as well as the Departmental orientation. All these events are held the week before classes begin. These orientations cover the requirements for degrees as well as the level of performance that constitutes normal progress.

The Departmental Graduate Program Policies and Procedures are described in Section II below. This document is also available on the Department's home page. It should be read carefully, because students are responsible for adhering to the guidelines and being aware of all information it contains. General information on requirements is in the Graduate Catalog (on-line). During orientation, students will be introduced to the Department Head and the Graduate Director, and they will hear presentations about the duties and responsibilities of teaching assistants, laboratory safety, the Graduate Honor System, and the Biology Graduate Student Association.

2. The First Year:

- A. Students work with their Major Advisors to develop a list of appropriate coursework. In addition to formal coursework, students are expected to enroll in a seminar course each semester (1 cr.) and to take sufficient research hours (BIOL 5994 or 7994) to total at least 12 credits per term. During the fall semester of the first year, students must enroll in the BIOL 5174: Introduction to Graduate Studies in Biological Sciences seminar course. This course provides new students with critical information about the graduate program and required training. Transfer students must take it their first Fall semester in the Department.
- B. If a student has selected a Major Advisor, planning of the thesis or dissertation research can begin during fall semester. If a permanent Major Advisor has not been chosen, students can use the fall research hours to pursue discussions and/or undertake research rotations with appropriate faculty members to investigate potential projects. The choice of a permanent advisor should be made by the end of fall semester, because of the timing within which other degree requirements need to be formalized, except for students involved in programs with two semesters of rotations, who must choose a permanent advisor by the end of their second semester.
- C. Students work with their Major Advisors to develop a tentative Plan of Study listing the formal coursework that will be taken (worksheets are available on e-portfolio and from the Graduate Coordinator, and additional instructions are in the Graduate School Policies and Procedures and Course Catalog). Students also work with their Major Advisors to decide on a suitable thesis/dissertation project, and then prepare a formal research prospectus. The extent of the prospectus will depend on the nature of the project, the amount of background literature in the

subject, the extent of the student's research experience, and the expectations of the Major Advisor.

- D. The student and advisor decide on the composition of an Advisory Committee (see guidelines in Section II). Ph.D. students not involved in laboratory rotations in their first semester and all M.S. students should invite faculty members to serve on their Advisory Committee and schedule the first committee meeting before the end of the second semester in residence. Students should provide each committee member with a copy of the prospectus at least one week before the meeting. At the meeting, the student will make an oral presentation of the research project, including any progress to date, followed by a general discussion of the project. Advisory Committee members can suggest changes in the research design, offer editorial comments, or otherwise comment on the prospectus. The prospectus is a working, evolving plan for the degree research. The Advisory Committee should also be invited to comment on the Plan of Study, which can be modified as needed and approved at the first meeting. The Graduate Coordinator forwards the Plan of Study to the Graduate School for final approval. The Major Advisor will summarize the Advisory Committee evaluation of the prospectus and degree plans in a letter to the student and will provide copies for the student's file and the Advisory Committee members.
- E. Ph.D. students in the Microbiology program involved in rotations in their first semester must have a committee meeting before the end of their second semester and present a Plan of Study and an outline of their research prospectus at that time. The Major Advisor will summarize the Advisory Committee evaluation of the prospectus outline and degree plans in a letter to the student and will provide copies for the student's file and the Advisory Committee members. A full research prospectus must be prepared and presented to the Advisory Committee during their third semester.
- F. Ph.D. students in Translational Plant Sciences, MultiSTEPS and other programs in which they are involved in rotations for their first two semesters must select a Major Advisor by the end of their second semester. These students have until the end of their third semester of residence to submit a Plan of Study and prospectus to their committee.
- G. An e-portfolio site will be set up for all incoming graduate students, initially including their application materials. All official materials must be entered into this site, including copies of the Plan of Study, the prospectus, the Advisor Committee meeting summaries, and an updated c.v. The materials in this site, as well as a form summarizing professional activities and progress toward the degree, must be updated prior to specific deadlines (in May for incoming students, December for continuing students) to allow evaluation by the Department's Graduate Review Committee (see Section II).

SECTION II

POLICIES AND PROCEDURES

I. GRADUATE PROGRAM STRUCTURE

A. Graduate Selection Committee (GSC)

Composition: The GSC consists of representatives from each of the major disciplinary areas of the department (molecular, cell, developmental and computational biology; ecology, evolution and behavior; and microbiology and immunology). The chair is the Graduate Director and members of this committee are appointed by the Department Head.

GSC Functions: To facilitate the review of graduate applications by faculty members in appropriate subject areas, to facilitate interviews with potential graduate students, to provide consistent general review of applications, and to maintain general standards in graduate admissions. In addition, the Graduate Selection Committee provides information about the program to potential graduate students and assembles data for the faculty describing applicant quality, admissions criteria, and the profile of credentials of accepted students. The committee makes recommendations to the Department Head of incoming graduate students as to who should receive offers of teaching assistantships.

B. Graduate Review Committee (GRC)

Composition: The GRC consists of representatives from each of the major disciplinary areas of the Department (molecular, cell, developmental and computational biology; ecology, evolution and behavior; and microbiology and immunology). The chair is the Graduate Director and committee members are appointed by the Department Head.

GRC Functions: The primary responsibility of the GRC is to assess student progress throughout his/her graduate degree. The committee reviews the performance of all graduate students annually based on individual Advisory Committee evaluation letters and other information in the student e-portfolios. Other GRC functions include the review of proposed graduate courses, evaluation of proposals for change of status for students enrolled in the graduate program, hearing graduate appeals at the Departmental level, drafting proposed policy statements, and handling other general business pertinent to the graduate program. The committee also proposes candidates for University and Departmental Fellowship awards.

C. Graduate Advisory Committees (GAC) for Individual Graduate Students

A GAC of appropriate composition is formally established at the time of the first committee meeting. Advisory Committee members should provide expertise in the disciplinary area and specific field of the student's research. The Major Advisor must be a tenured or tenure-track faculty member in Biological Sciences; adjunct and affiliated faculty may serve as Co-Major Advisors together with a tenured or tenure-track faculty member in Biological Sciences. The base number of committee members is three tenured or tenure-track faculty (including the Major Advisor) for M.S. and four for Ph.D. At least one member of the committee besides the advisor must be tenured faculty and at least two must be Biological Sciences faculty in both cases. Including committee members from outside the Department and outside of one's immediate research area is recommended. Note that committees may include more than the base number of

members. Adjunct and affiliated faculty, and faculty without affiliated status from other departments at Virginia Tech may count toward the base number of members, but only adjunct and affiliated faculty may serve as Co-Major Advisors.

Responsibilities of the GAC: The Major Advisor (or Co-Major Advisors) has (have) the primary responsibility for directing the student's research and providing the guidance needed for fulfilling the requirements of the degree program. Members of the Advisory Committee are expected to attend all meetings, including examinations, to read and comment on written materials provided by the student, and to provide advice and guidance to the student during the degree program. The Chair of the Advisory Committee writes an evaluation of the student's progress which summarizes the consensus of the committee after every committee meeting. If concerns about this advisory and review procedure are brought to the Department Head by the student or committee members, the Department Head may attend committee meetings or meet individually with the Major Advisor or committee members to discuss and resolve the problem. Refer to item 4C for further information about the evaluation of the student's progress by the Advisory Committee.

Changes in GAC composition: There are legitimate, academically appropriate circumstances when changes in a student's Advisory Committee should be made. In all cases, the earlier these changes occur the greater the academic benefit to the student. Often, the student's academic needs can be served best by the addition of committee members and the retention of the original committee members. Changes in committee composition because of extensive changes in the student's research direction should result in a re-examination of the Plan of Study to determine whether changes in the coursework are also necessary.

GAC Substitutions (for the preliminary examination): The function of the preliminary examination is to test the student's knowledge of biology as well as the disciplinary area and research field. The examining committee should consist of the GAC and any additional members considered appropriate. No more than one substitution will be permitted; the substitute member must be as suitable to the committee as the member replaced. (Resignations, such as when a committee member leaves the university, are not considered to be substitutions.)

GAC Substitutions (for final examination and thesis or dissertation defense): Committee substitutions for the final examination/defense often result in a loss of integrity and continuity in the process of academic development of the student, as well as loss of quality control in training. Therefore, substitutions of faculty on Advisory Committees very late in a graduate student's degree, to read the thesis/dissertation and conduct the final exam/defense, should be only for important academic reasons or in cases of emergencies, never for convenience. No more than one substitution will be permitted and the new committee members must represent a subject area pertinent to the student's research. Approval of the substitution by all committee members, old and new, is required by the Graduate School.

D. Students Enrolled in the Department of Biological Sciences but Doing Their Research Outside the Department:

- i. Must follow all policies and procedures established for the Department of Biological Sciences Graduate Program;
- ii. Major Advisor or Co-Major Advisor must be a Department of Biological Sciences faculty member;
- iii. At least two members of the GAC must be Department of Biological Sciences faculty;

E. Students enrolled in Interdepartmental Programs but Doing Their Research in the Department of Biological Sciences:

Must have a Department of Biological Sciences faculty member as Major Advisor, and must follow all policies and procedures established for the Department of Biological Sciences graduate program.

2. GRADUATE ADMISSIONS

A. Processing of Applications

Applications are submitted electronically to the Graduate School and the Department. When complete, the application is logged-in and given to the Chair of the Graduate Selection Committee.

The Chair of the Graduate Selection Committee forwards the application to the Selection Committee representative of the appropriate discipline. The representative attaches his/her general comments about the applicant's record (to provide general perspective in the light of the whole applicant pool), and then solicits faculty comments. At this stage, a personal interview is often desirable. It is the responsibility of an interested faculty member to contact prospective students and arrange interviews. Faculty comments based on the application and the interview give perspective about the student's acceptability in the area, availability of room in the program, and willingness of faculty to serve as advisors or committee members for the student. Faculty members recommend individual students for admission; the disciplinary representative then makes a consensus recommendation and returns the application to the Chair of the Graduate Selection Committee.

The Chair of the Graduate Selection Committee reviews the comments and will: 1) make a decision; or 2) hold the application for a final decision. Final decisions will normally not be made before 31 December, the deadline for applications, and will continue until available positions are filled, typically in mid-March. Acceptances precede offers of financial aid; applications received after December 31 may have a reduced chance for financial aid. October 31 is the deadline for spring semester applications for domestic students. We do not accept international applications for the spring semester.

B. Admission Requirements (Department of Biological Sciences)

Applicants must meet the following standards:

- i. GPA \geq 3.0 for the last two years or 60 credit hours of undergraduate coursework;
- ii. references indicating aptitude for graduate studies, especially for research;
- iii. sufficient background coursework in the field of interest;
- iv. at least one faculty member willing to sponsor the applicant, availability of faculty for a committee competent in the field of interest, and agreement of faculty in the field of interest that the student should be accepted for graduate work.

C. Types of Graduate Degree Status

All graduate degrees in the Department of Biological Sciences require a thesis or dissertation. The Department does not offer non-thesis degrees.

- i. **Regular Degree Status (M.S., Ph.D.).** The applicant must fully meet all the requirements listed above. Beginning graduate students with B.S. degrees are admitted at the M.S. or Ph.D. level. To admit beginning graduate students directly into the Ph.D. program, the committee needs very strong evidence that the students will be able to complete the requirements for the Ph.D. (e.g., undergraduate research experience, excellent coursework preparation, outstanding grades and GRE scores, and strong letters of support). The Graduate School will not approve a change from M.S. to Ph.D. status until the student has completed a minimum of 30 graduate hours.
- ii. **Provisional Status (M.S. only).** If one criterion for regular degree status is below minimum or several are marginal, the committee will consider provisional status if a particular faculty member strongly supports the applicant and will make a commitment to supervise critically the student's progress during the probationary period (first 9 hours of graded coursework; see procedure for transfer to regular status, Section III). Provisional students must earn a GPA ≥ 3.0 in their first semester or they are dropped from the Graduate program. Courses taken in this status can be applied towards an M.S. given approval by the student's GAC and the Graduate School.
- iii. **Commonwealth Campus Status.** Students in this program may take graduate classes in Biological Sciences. If a Commonwealth Campus student later wishes to pursue a degree, he/she must apply for admission to regular degree status just as any other applicant. Courses taken in this status can be applied towards an M.S. or Ph.D. given approval by the student's GAC and the Graduate School.

This status is appropriate for a student who wants to improve his/her credentials for professional school. Students not willing to complete an advanced degree should register as Commonwealth Campus students because medical, dental, and veterinary schools generally will not accept students who have initiated, but have not completed, graduate degrees.

D. Accelerated Undergraduate / Graduate Degree

The goal of this program is to identify exceptional undergraduate students in Life Science disciplines at Virginia Tech (during their junior year) whose education would be best served by accelerating their progression toward a graduate degree in Biological Sciences, and whose recruitment into graduate studies will enrich the Biological Sciences graduate program at Virginia Tech. Selected students should have superior academic backgrounds and a rich research experience before they are identified and admitted into the accelerated U/G degree program. The admittance of these students into the Accelerated U/G program is intended to shorten the time to completion of the graduate degree without reducing the quality of education at the undergraduate or graduate level. The graduate component of this program is a Master's of Science in Biological Sciences with the option of converting to a PhD without completing the master's. Applications to the program must be made prior to April 1 for beginning the program in the following fall semester and October 1 for beginning the program in the following spring semester.

The admissions criteria for the program are as follows:

- A cumulative GPA of 3.5 or higher is required, although the Graduate Selection Committee may accept GPAs between 3.3 and 3.5 in well-justified cases.
- Students qualifying for the program must be in the last 12 months of their undergraduate degree when their accelerated U/G program begins.
- A combined score of 1000 or higher on the Aptitude GREs (Verbal + Quantitative) is required.

Applications must include:

- A letter from the student that addresses the student's motivation for entering the Accelerated U/G degree program, the career objectives, and the previous experience relevant to the proposed graduate studies.
- A letter from a faculty advisor who is willing to mentor the student through the Accelerated U/G program. This letter should include a description of the student's potential for graduate studies and why the Accelerated U/G program serves the educational needs of the student better than completing the undergraduate degree and then entering a graduate degree program.
- Two additional letters of recommendation that address the student's qualifications for the graduate program.
- Official GRE score report for Aptitude GRE (Verbal and Quantitative tests).
- A current resume (or c.v.) for the applicant.
- A completed Biology graduate application Supplemental Form.

A maximum of nine graded credits at the 5000 level can be double counted toward both the undergraduate and graduate degrees. It is recommended that the student take one 5000 level course during the first semester of the Accelerated U/G program and a maximum of two 5000 level courses during the second semester of the Accelerated U/G program. No 4000 level courses are acceptable for the graduate degrees in Biological Sciences. A grade of B or higher must be earned in each course to be double counted for the undergraduate and graduate degrees.

When the student is admitted to the Accelerated U/G program the faculty advisor will initiate an accelerated process for mentoring in comparison to our normal MS mentoring requirement. Before the student's senior year of the BS within the U/G program the student must form a tentative Graduate Advisory Committee for the purpose of drafting and approving a tentative Master's Plan of Study (POS). The purpose of this is to determine which 5000 or higher courses, taken during the senior undergraduate year, will be double counted to both the undergraduate and graduate degrees. By the end of the second semester of the student's senior year of the BS within the U/G program, the MS thesis prospectus will be prepared and reviewed at the Student's Graduate Advisory Committee meeting. This requirement is based on our expectation that students in the Accelerated U/G program will complete the Master's degree one year after completion of the Bachelor's degree (a total of two years in the U/G program). Therefore, the thesis prospectus should be prepared by the end of the first year in the Accelerated U/G degree program.

In the Department of Biological Sciences, there are cases in which a student enters the graduate program as a Master's degree candidate, and the student's progress (especially in research) is outstanding. Under these circumstances there is the opportunity to request a conversion of the degree sought from MS to PhD without finishing the MS degree. The Department's policies on change in degree from MS to PhD (not completing the MS) is described in section 4 below. These policies apply to all graduate students in Biological Sciences including those in the U/G degree program.

3. DEGREE REQUIREMENTS

General requirements for M.S. and Ph.D. degrees at Virginia Tech are described in the Graduate Catalog. The following degree requirements apply to students in the Department of Biological Sciences and also to Ph.D. students in interdepartmental programs who have Biological Sciences faculty as Major Advisors and who wish to be eligible for financial assistance through the Department of Biological Sciences.

A. Plan of Study and Prospectus

A Plan of Study must be filed by M.S. and Ph.D. students not involved in rotations prior to completing two semesters of graduate coursework as a full-time student within the Department of Biological Sciences. Ph.D. students involved in rotations must submit their Plan of Study in their second (Microbiology) or third (Translational Plant Sciences; MultiSTEPS; other programs with two semesters of rotations) semester of graduate work.

Courses included on the Plan of Study (POS) are those needed for the student's academic development in his/her disciplinary area and specific research field and to remedy any background deficiencies. Remedial courses may be appropriate as supporting courses.

M.S. degrees in the Department of Biological Sciences require a minimum of 12 hours at the 5000 level, a maximum of 3 hours at the 4000 level, and 3 additional hours for seminars for a total of 18 graded hours (approved by the Graduate School on 6 April 2004). Ph.D. degrees require 18 graded course hours at the 5000 level plus 4 additional hours for seminars (approved by the Graduate School on 6 February 2004). Changes to existing Plans of Study can be made with GAC approval using the formal POS change procedure.

When a student's academic needs are in variance with either the M.S. or Ph.D. course requirements, the GAC can petition the Graduate School for a substitution or an exception. The petition should justify why the student's professional development would best be served by a variance to current requirements. This process provides flexibility when needed and appropriate.

During the second (students not on rotations) or third (students on rotations) semester, students must present a thesis or dissertation prospectus to the GAC. This should include a title, description of the project (including objectives or hypotheses), relevance of the project to the literature, and an outline of the experimental design and methods that will be used to meet the stated objectives.

The Advisory Committee member's signatures on the student's Plan of Study signify that they agree on the adequacy of the research program and the proposed coursework in relation to the student's degree objectives and background. Students, upon consultation with their GAC, may elect to take additional courses not on the Plan of Study. Students are required to take a seminar course each semester they are in residence, and normally those beyond the required number (3 for M.S., 4 for Ph.D.) are not included on the Plan of Study.

B. Curriculum Vitae

Students must have a current professional curriculum vitae in their e-portfolio. This document must be updated before every Departmental review of graduate student e-portfolios. (A suggested curriculum vitae format is available in the Graduate office.)

C. Committee Meetings

Advisory Committees will meet with students at least twice a year except for first year students who are required to meet only once. Once the Plan of Study and prospectus are approved, provided the student is making satisfactory progress toward the degree, the Advisory Committee and student may mutually agree to meet only once in a particular year. Reference to this agreement will be included in the annual evaluation letter that is distributed to the student e-portfolio and Advisory Committee members.

The purpose of the Advisory Committee meetings is for students to report progress toward meeting the degree requirements. The report should be focused on research progress but may include other topics such as completion of the POS, TA evaluations, updating the CV, student involvement in professional activities, grantsmanship, or other special activities. A checklist of items that may guide the discussion and a review sheet tabulating each student's progress are available in Appendix A of this document. After a discussion among committee members and the student regarding the report, the student will be asked to leave the room to allow the committee members to develop an evaluation. The evaluation will be summarized by the Major Advisor and the student may respond. After the meeting, the Major Advisor will draft a letter addressed to the student reflecting the committee evaluation with copies going to committee members and the student's e-portfolio. Students may disagree with elements of the report by submitting a letter to the GAC.

Committee evaluation letters should describe the ways in which a student is making satisfactory progress, identify problem areas, and specify expectations for future performance in research, coursework, and teaching. Unsatisfactory progress should also be documented, along with expectations for improvement. If such improvement does not take place, the Advisory Committee should recommend to the Graduate Review Committee, the Graduate Director, and the Department Head that the student be terminated from the program.

D. Preliminary Examination

Doctoral students must take a preliminary examination conducted by their Advisory Committee and designed to test the student's mastery of the doctoral field of study. This is an oral exam (an additional written exam is optional). The Department Head or a member of the Graduate Review Committee may attend in addition to the student's Advisory Committee. The preliminary exam counts as one of the required annual committee meetings.

Normally, most formal coursework should be completed prior to the preliminary examination and that examination should not be taken later than the third year of graduate residence. The preliminary examination must be passed at least six months before degree completion.

The request to schedule the preliminary examination should be approved by all members of the student's Advisory Committee through the Graduate School's electronic approval system at least two weeks prior to

the examination date requested. Preliminary examinations should be given only during regular academic sessions.

On completion of the preliminary examination, the results of the examination should be entered and approved by all members of the Advisory Committee through the Graduate School's electronic approval system. To pass the examination, a graduate student is allowed at most one unsatisfactory vote. If a student fails the examination, one full semester (a minimum of 15 weeks) must elapse before the second examination is scheduled. Students have only two opportunities to pass the examination. Additional details regarding this exam may be found in the Graduate Policies and Procedures and Course Catalog, under "Examination".

E. Thesis/Dissertation

A thesis/dissertation is required for all M.S. and Ph.D. degrees awarded by the Department of Biological Sciences. Graduate students approaching completion of their proposed research should obtain verbal assurance of the adequacy of their research by presenting their data and interpretations at an Advisory Committee meeting. Once a draft of the thesis/dissertation acceptable to the student's Major Advisor is available, students should seek feedback on the draft from other advisory committee members before preparation of the final draft. This may be done with a complete draft, or drafts of individual chapters. A copy of the final draft, acceptable to the student's advisor, must be distributed to the Advisory Committee members a minimum of two weeks before the final examination date.

Students must submit their thesis or dissertation electronically. Instructions are located on the Electronic Thesis and Dissertation (ETD) homepage at <http://etd.vt.edu/>. The final form of the thesis/dissertation must be approved by all members of the student's Advisory Committee through the Graduate School's electronic approval system within two weeks after the final examination.

It is University policy that data collected while a student (or other researcher) is at Virginia Tech are the property of the University. This includes notebooks containing original data, copies of the thesis/dissertation, and manuscripts submitted for publication. Arrangements must be made with the Chair of the Advisory Committee to reproduce any material that the student wishes to take with them.

F. Seminar Requirements

Graduate students are expected to attend one of the weekly seminars offered by the Department each semester they are in residence and should be enrolled Pass/Fail in the seminar they are attending. During the fall semester of the first year students should enroll in the BIOL 5174: Introduction to Graduate Studies in Biological Sciences seminar. Subsequently students should enroll in an appropriate seminar of their choice. **Students may attend seminars in another academic unit if approved by a student's advisory committee.** The faculty may set formal requirements in each disciplinary group.

Graduate students must present two seminars during their graduate residence for each degree. One of these must be a final or terminal seminar, based on the thesis or dissertation that precedes the final examination (defense). Final seminars should be presented during one of the regular Departmental seminars series whenever possible and should be publicized in the weekly seminar schedule. The student's Advisory Committee can determine the nature of the other required seminar. Options include oral presentations at national meetings, presentations in graduate courses that require a substantial review of

literature, or presentation of a regular Departmental seminar. The advisor must document completion of the other required seminar in one of the student's committee evaluation letters.

G. Teaching Requirement

Each student is required to teach at least one semester of a laboratory course during his/her degree.

H. Foreign Language

Proficiency in a foreign language is not required by the department. However, this requirement may be instituted at the discretion of the student's Advisory Committee.

I. Out-Of-Date Coursework Revalidation

Academic work, including transfer credit, taken more than five years before the date at which the M.S. degree is awarded or seven years before the Ph..D is awarded, may not be used to satisfy degree requirements. Out-of-date coursework may be revalidated upon petition and approval of the Department and Graduate School if:

- i. Material has been sufficiently covered in more recent complimentary or advanced courses.
- ii. Material is in student's research area and the literature review of the thesis or dissertation demonstrates an acceptable level of competence.
- iii. Student's Advisory Committee may assign directed readings. Material is covered at the Preliminary Examination or defense.
- iv. Course is in a stable field where no significant advances have occurred since course was taken.

J. Final Examination

Graduate students must pass a final oral examination, which will include but need not be limited to a defense of the thesis or dissertation. The examining committee will be composed of the student's Advisory Committee. According to Graduate School policy, any faculty member may attend and participate in the examination, but voting privileges are limited to the Examining Committee. The Department Head or a member of the Graduate Review Committee may attend final examinations.

Requests to schedule the terminal seminar and final examination must be approved by all members of the student's Advisory Committee through the Graduate School's electronic approval system **at least two weeks** prior to the examination date. Graduates planning to have the degree conferred during university commencement exercises must meet earlier deadlines set by the Graduate School. Final examinations must take place during regular academic sessions (Graduate Policies and Procedures and Course Catalog, "Examinations"). The result of the final examination must be entered and approved by all members of the student's Advisory Committee through the Graduate School's electronic approval system immediately following the exam.

K. Professional Activities during Graduate Degrees

- i. **Scientific Publications:** Whenever possible students should arrange the order of their proposed work so that it forms sections appropriate for publication and permits submission of some work prior to defense of the thesis/dissertation. Successful experiences with the review process, in creditable journals in the student's research field, are especially important for doctoral students.
- ii. **Presentation of Papers at Scientific Meetings:** Both regional and national meetings provide good opportunities for students to present segments of their research work and to attend symposia and contributed paper sessions. The Department may provide partial financial support to students presenting papers at meetings relevant to their research field.
- iii. **Grant Proposals:** All graduate students are encouraged to apply for the small grant funds available from a number of sources to help support their research. A student's advisor may assist in the preparation of a grant proposal for submission to a national funding agency. Doctoral students who are involved in such proposals early in their careers have the opportunity to help provide for their research and give them writing experiences that can enhance publishing papers prior to degree completion.

L. Summary of Degree Requirements

	M.S.	Ph.D.
Prospectus	2 nd semester	2 nd semester (no rotations), 3 rd semester (rotation students)
Seminars during graduate residence	2 required	2 required
Committee meetings	1-2 per year	1-2 per year
Foreign language	--	at committee discretion
Teaching requirement	one semester lab course	one semester lab course
Preliminary exam (oral exam with optional written)	--	second or third year
Final exam (oral exam, including but not limited to defense of dissertation or thesis)	required	required

4. GRADUATE STATUS CHANGES

All transfers or changes in graduate status must be processed through the Graduate Selection or Review Committees. Changes are requested by the Major Advisor who should provide appropriate supportive material as indicated below.

A. Change in degree program (responsible committee):

- Ph.D. not completing M.S. (Review Committee)

Primary responsibility for recommending the change of status lies with the student's graduate advisory committee. A letter from the Ph.D. Major Advisor and separate endorsements by all other M.S. Advisory Committee members should indicate how the student's progress, accomplishments and scientific maturity warrant a change of status. Evidence of progress and accomplishments could include, but need not be limited to: manuscripts in preparation (draft copy included), in press or published; grant proposals prepared; professional presentations; scholarships or fellowships obtained; development or mastery of novel techniques required for pursuit of the research; completion of a significant amount of the research described in the M.S. research prospectus; and high ratings from the Graduate Review Committee. Scientific maturity is best judged by the student's Advisory Committee and should be addressed in committee members' letters to indicate that the student can handle all aspects of the doctoral program. The Graduate Review Committee will review the application and recommend to the Graduate Director whether the proposed change in status be approved.

- Ph.D. after completion of M.S. (Review Committee)

Primary responsibility for recommending the entry of the student into the Ph.D. program lies with the student's M.S. Graduate Advisory Committee. A letter from the M.S. Major Advisor and separate statements from all other members of the M.S. Advisory Committee, as well as from the potential Ph.D. Major Advisor should indicate how the student's accomplishments and scientific maturity have developed at the M.S. level to warrant entry into a doctoral program. The Graduate Review Committee will review the application and recommend (1) approval with GRA or GTA funding, (2) approval if GRA funds are available or (3) not approved. The application can be tentatively recommended for approval by the Graduate Review Committee before completion of the M.S. and this recommendation will become final upon successful defense of the M.S. thesis.

- Regular status from Provisional

Students entering the program on provisional status will automatically be converted to regular status by the Graduate School after achieving a GPA of 3.0 or better on 9 graded credit hours.

- Transfer from another Department (Selection Committee)

Transfers from another Academic Unit will be treated as a new application, i.e., all materials required under II. 2B above should be submitted to the Graduate Selection Committee along with the Graduate School transfer approval form.

B. Change of Major Advisor

Students wishing to change Major Advisors, and who are making satisfactory progress toward the degree, will have one “grace semester” to find a new Major Advisor and form a new Advisory Committee. The new Advisory Committee may or may not include members of the original committee. If a new Major Advisor and Advisory Committee are not established by the end of the “grace semester” the student will be terminated from the program.

If the Major Advisor leaves the University, the student, if making satisfactory progress, should work with their Advisory Committee and the Department Head to find a new Major Advisor.

C. Discontinued enrollment

Graduate students are expected to be continuously enrolled while they pursue their degrees. Students in residence fulfill this requirement by registering for 12 credits per semester. Under special circumstances the enrollment requirement may instead be met in the following ways.

- i. Graduate students in good standing who for academic reasons need to spend an entire Fall or Spring semester away from campus can apply for and be granted **In Absentia Status**. In Absentia Status is granted for work that is directly related to a student’s academic course of study and that is integral to his or her degree. Examples include field research and laboratory work with research collaborators at remote institutions. Students can remain in absentia for two consecutive semesters, but then must return to residency for a minimum of one semester. Exemptions may be granted by the Graduate School when longer periods of absence are required, for example for field research. During each Fall and Spring semester in absentia, students must register for one credit hour. Note that students can be away from campus during the summer without In Absentia Status being required. To obtain In Absentia Status graduate students, with the approval of the Chair of their Graduate Advisory Committee, must file a Request for In Absentia Status with the Graduate School. The request must be approved by the Department Head or Graduate Director. Note that students with In Absentia Status cannot be paid via Graduate Research Assistantships; they can be paid via hourly wage. Students requesting In Absentia Status for the Spring semester can continue their student health insurance for which they signed up in the Fall, but students requesting In Absentia Status for the Fall semester are not eligible for student health insurance.
- ii. Changes in life circumstances sometimes necessitate a break in graduate studies and continuous enrollment. Graduate students who need a break in continuous enrollment may apply for a **Leave of Absence**. Acceptable reasons for granting a leave include medical and health, family emergency, change in parental status, military service or call-up, financial hardship, personal reasons and academic reasons. Students on leave of absence are not entitled to use University resources not normally available to the public or alumni. Leave of absence may be granted for up to one year at a time. Graduate students, in consultation with and with the approval of their Major Advisor, may file a Request for Leave of Absence with the Graduate School. The request must be approved by the Department Head or Graduate Director.
 - a. Readmission to the graduate program after one year of leave is automatic.

- b. If a leave of longer than one year is required, the student must file an "Application for Graduate Readmission" with the Graduate School. This form requires the signature of the Department Head.
 - c. If absence from the program continues for four semesters or more, in addition to the "Application for Graduate Readmission" submitted to the Graduate School, the student must also submit to the Department a written plan outlining how and when degree requirements will be met. The plan should be developed by the student in consultation with the Major Advisor and members of the Advisory Committee who are willing to continue serving on the committee. If some members are unwilling to serve, a new committee may have to be formed; the chair and members of the old committee are under no obligation to continue their service on the committee. Thus, the student must discuss the continued participation on the committee with former committee members and also assume responsibility for the participation of new members if necessary. If the submitted plan is unacceptable to the student's Advisory Committee, the Graduate Director, with a recommendation from the Graduate Review Committee and the Advisory Committee chair, will have the option of terminating the student from the program. Once four semesters have passed, if the student has not sought readmission the Graduate Director will attempt to contact the student and request a plan as outlined above. If the plan that is submitted is unacceptable, no plan is submitted, or the student cannot be contacted, the Graduate Director, with a recommendation from the Graduate Review Committee and the Advisory Committee Chair, will have the option of terminating the student from the program.
 - d. Students returning from leave must be enrolled for at least 3 credits. Returning students do not become eligible for the Start of Semester Defense Exception until their second semester back in the program.
- iii. Students who decide to leave the program permanently should submit a letter of resignation to the Graduate School and provide copies to the Department Head, the Chair of their Graduate Advisory Committee, and the Graduate Director.

D. Termination of Student for Inadequate Progress toward the Degree

A negative review by a student's Advisory Committee, followed by a written evaluation detailing the Advisory Committee's expectations for improvement, should result in improved performance by the student. If such progress does not occur, as documented during the next Advisory Committee meeting, it is the responsibility of the student's Advisory Committee to recommend that the student be terminated from the graduate program (Graduate Policies and Procedures and Course Catalog, "Satisfactory progress"). If an Advisory Committee has not been formed, the student's Major Advisor can also act to terminate a student. In both cases, if the student has a GPA of less than 3.0 at the time that the Committee or Major Advisor recommends termination for lack of progress towards the degree, termination will be effective at the end of that semester. If the student has a GPA 3.0 or higher at the time that the Committee or Chair recommends termination, the Graduate Director may allow the student one additional semester to attempt to establish a new Advisory Committee.

The decision to terminate the student will be reviewed by the Graduate Review Committee, Graduate Director, and Department Head before (a) making the recommendation of termination to the Graduate School or (b) allowing the student one semester to find a new advisor and establish a new Advisory Committee.

These procedures will insure the student's right to appeal at every level as specified by Graduate School policy (Graduate Policies and Procedures and Course Catalog, "Graduate Student Appeal"). Should the student's committee not act despite two Advisory Committee meetings when the student's progress was rated Unsatisfactory, then upon a recommendation of the Graduate Review Committee and Graduate Director, the Department Head may recommend termination of the student to the Graduate School. Two consecutive ratings of Unsatisfactory from the Graduate Review Committee are grounds for termination.

5. REVIEW OF GRADUATE STUDENT PROGRESS

The Graduate Review Committee meets formally in January and May of each year. In the January meeting, all students who have been in the program one year or longer are reviewed. In May students who entered the program the previous August are reviewed along with selected students from the January review. Students admitted under Provisional Status are reviewed on the same schedule as those admitted under Regular Status. The evaluation letter from the most recent meeting of the student's Advisory Committee will be the most important source of information about each student's progress. Additional relevant information in the student's e-portfolio will also be used (professional activities, grade reports, Plan of Study, earlier evaluation letters, student evaluations of GTA performance, and descriptive faculty evaluations of TA performance). For students who enter the graduate program on rotations, the Graduate Review Committee examines letters from advisors describing student progress at the end of the students' second semester. These students are first formally reviewed at the end of their third semester.

6. FINANCIAL ASSISTANCE

A. **Financial assistance** is available in the form of Graduate Teaching Assistantships (GTAs) from the Department and Graduate Research Assistantships (GRAs), typically from the Graduate Advisor's grant funding. A very small number of fellowships are available from other sources, including the Graduate School's Cunningham Doctoral Assistantship, various Interdisciplinary Graduate Education Fellowships, and the ICTAS Doctoral Scholar Award. Incoming students are evaluated on their application credentials and Graduate Selection Committee recommendations; only students who qualify for support are admitted into the Department's graduate program. Continuing support is based on the Graduate Review Committee's assessment of progress toward the degree.

i. Support limits will be as follows.

Degree prior to Enrolling in Department of Biological Sciences Graduate Program	Degree earned/ pursued in Department of Biological Sciences	Support limits
B.S.	M.S. (Thesis)	2(-3) years or 4(-6) semesters.
M.S.	Ph.D. (Diss.)	3(-4) years or 6(-8) semesters.
B.S.	Ph.D. (Diss.)	4(-5) years or 8(-10) semesters.
B.S.	M.S. (Thesis)- Ph.D. (Diss.)	2(-3) +3(-4) = 5(-7) years or 10(-14) semesters.

- ii. This policy shall be rigorously applied for GTAs and fellowships under university, college, and Departmental jurisdiction. Professors awarding GRAs are urged to also apply these time limits.

Higher numbers in parentheses should not be interpreted as the norm but should be applied on recommendation of the student's Advisory Committee due to special, justifiable considerations. The student is responsible for demonstrating that significant progress in a reasonable time frame has or is being made. Major Advisors are responsible for assisting their students in designing schedules that will allow realization of the above support/time limits.

- B. **GTA course assignments** will be made using information supplied by GTAs and the faculty. Assignments should provide quality teaching for undergraduates, use the graduate student's past experience, and optimize graduate training in the graduate student's field. Typically, incoming GTAs will be assigned to freshman biology laboratories.
- C. **Graduate Research Assistantships** are awarded at the discretion of faculty members whose grants include GRA support. It is the responsibility of the faculty member to offer (and continue) GRA support.
- D. **Summer Support.** Major Advisors are generally expected to provide support from grant funds for their graduate students during the summer. A very limited number of GTAs are available for the rare situations where this is not possible.
- E. **Credit Hour Loads:** Graduate students must enroll for 12 credit hours each semester and must make satisfactory progress toward their degrees in order to be eligible for GTA or GRA support. Normally graduate students do not enroll for credits during the summer.
- F. **GTA Workload:** GTAs normally spend about half-time (20 hrs. per wk. or 2-3 laboratory sections) service for this support.

7. GRADUATE STUDENT RESPONSIBILITIES

A. Academic Responsibilities:

- i. **Degree Requirements:** "It is the student's responsibility to satisfy all university requirements described in the Graduate School Policies and Procedures section in the Graduate Catalog <http://www.grads.vt.edu/academics/gcat/index.html> as well as any additional requirements established by the faculty in the academic program in which the student is enrolled" (Graduate Catalog, "Graduate School Policies and Procedures"). While the student should expect good quality advising by his/her Advisory Committee, the Department of Biological Sciences, and the Graduate School, the primary responsibility for knowing the degree requirements and progressing through the degree rests with the student. The student should be familiar with University Policies as detailed in the Graduate Policies and Procedures Manual and with the Department policies as detailed in this manual.

B. GTA Responsibilities:

- i. **Teaching Quality:** GTAs should give conscientiously prepared, good quality presentations and general assistance to the students in their laboratory courses. Difficulties with teaching should be discussed by the student and teaching supervisor with every effort made to give the GTA positive, constructive guidance.
- ii. **Office Hours:** GTAs should post their office hours and inform their classes of office hours and the location of their office. GTAs should always be available during their office hours.
- iii. **Grading:** GTAs usually have the primary responsibility for assigning grades in their laboratory sections. Prior to 18 hours of course work at the graduate level, grades are officially assigned by a faculty member in accordance with University policy. The teaching supervisor maintains review prerogative but normally does not request adjustment except under extreme circumstances.
- iv. **Evaluation of Teaching:** GTAs must provide their students an opportunity to evaluate their teaching performance each semester using the standard form that has been developed for this purpose. Tabulation of student evaluation data is done by the Test Scoring Service and a copy of the results is placed in the student's e-portfolio. In addition, teaching supervisors typically provide an independent evaluation of GTA performance. Copies of these evaluations are shared with the student and the Major Advisor, and should be placed in the student's e-portfolio. Consecutive poor evaluations from teaching supervisors may result in loss of eligibility to receive subsequent GTA assignments.
- v. **Meeting Classes:** GTAs are responsible for meeting all of their scheduled classes and do not have the authority to cancel a class. If extreme circumstances prevent a GTA from meeting his/her class, a substitute must be arranged. In cases of sudden illness when a substitute cannot be scheduled, the faculty teaching laboratory supervisor should be contacted.
- vi. **Safety:** It is the responsibility of GTAs to instruct their students about necessary safety precautions during laboratory exercises. The university does not carry insurance that protects the teaching staff if legal charges result from a student injury. A GTA's key defense against any such legal action is careful instruction in safe laboratory practices.
- vii. **Vehicles:** Department vehicles are available for official teaching and research activities by graduate students. The driver must be an employee of the university and must have a valid driver's license. First time users of vans must meet with Kenneth Smith to review van safety and use procedures. University policy limits the number of individuals per van to 10. The university has the minimum liability insurance on state owned vehicles. Vehicle use should be reserved in the Department of Biological Sciences office well in advance of anticipated need.
- viii. **Medical Leave:** GTAs are responsible for informing the Department in case of a medical emergency or a scheduled medical condition while classes are in session. If the medical event prevents the GTA from performing their assigned duties--typically teaching laboratories--they may request up to two weeks of medical leave without loss of pay. Except in cases of medical emergencies the affected GTA will need to arrange with other GTAs and/or their teaching supervisor as to who will cover their teaching duties while away for medical reasons. If more

than two weeks is required for recovery the additional time away will be without pay, as a substitute will need to be hired. A GTA will not lose their position due to medical conditions as long as other Departmental guidelines are met.

In the case of planned maternity leave for GTAs, GRAs and GAs, the Graduate School has created a program entitled Work-Life Grants through which departments can request temporary financial assistance equivalent to a stipend for 6 weeks (matching funds from the Graduate School and the College Dean). This request must be submitted by the Department to the Dean of the Graduate School and copied to the College Dean.

C. GRA Responsibilities:

GRAs are generally responsible for 20 hours of service per week (not including their thesis research) on the grant project research providing their salaries. In contrast to GTA duties, GRA commitments generally include periods between academic sessions (part-time employees of the University do not earn any form of leave or holiday time).

D. Vacation/Holidays:

Time away from campus for holidays/vacations or travel to conferences may not interfere with a graduate student's GTA or GRA responsibilities and must be scheduled in consultation with, and with prior approval from, the Major Advisor. Students are encouraged to discuss planned or desired absences with their advisors as far in advance of the anticipated date as possible.

E. Honor System:

All graduate students should be familiar with the Virginia Tech Undergraduate Honor Code, both for their own information and for the appropriate handling of their GTA responsibilities.

APPENDIX A

Checklist for Evaluation of Graduate e-Portfolios (8/15)

A. General Data: **Current Date:** _____ *
Name: _____ *
Ph.D. _____ M.S. _____ Level: (Molec-Cell-Develop, Ecol-Env, Evol-Syst-Gen, Micro-Immuno)*
Date of Arrival: _____ Admission Status (Regular, Provisional, Non-degree) _____ *
Major Professor: _____ *

Progress toward degree requirements (in relation to time in program):

Plan of Study (semester approved): _____ *

Written research prospectus: (date approved) _____ *
Extent of proposal (GRC only) _____

Doctoral prelims (date passed): _____ *

Committee meetings (date for current year) (Do not remove old committee letters.): _____ *

B. Evaluation:

1. Coursework:

a. Plan of Study Progress: * _____

b. GPA: * _____

2. Research Progress:

a. Advisory Committee Evaluation Letter (dates) _____

3. Professional Activities:

a. Grants* _____

b. Presentations* _____

c. Publications* _____

d. Service* _____

4. Teaching Performance: (for the current year)

a. Courses Taught: * _____
b. Student Evaluations: * _____

5. Additional Information (CV updated, etc.):* _____

6. Rating: Excellent Satisfactory + Satisfactory Satisfactory - Unsatisfactory
(Circle one: GRC only)

7. Other Comments: _____

***Students, please fill in** **The checklist is located on the Biological Sciences' web page.**